

## REMARKS

The Office Action rejected claim 1 under Section 102(b) as anticipated by Dunn (5,625,877). Claims 11-15 were rejected under Section 102(b) as anticipated by Rosener (20020028655). Claims 2-4 were rejected under Section 103(a) as obvious over Dunn and Arari (6,430,395), while claims 5-10 were rejected under Section 103(a) as unpatentable over Dunn and Park (6,081,168). Claims 16-20 were rejected under Section 103(a) as unpatentable over Rosener and Park (6,081,168).

The Section 102 Rejection

Independent claim 1 was rejected under Section 102 as anticipated by Dunn relating to an apparatus and method for providing variable bandwidth in wireless air-link communication channels which allows a user of an end-user communicating device to request the allocation and aggregation of available air-link communication channels for the wireless transmission of messages to and from a mobile end-user communication subscriber unit, e.g. a cellular telephone or portable computer, so as to increase the speed of wireless transmission, wherein information transfer networks, channelized communication radios and microprocessors are typically employed for locating, reserving and aggregating available air-link channels and for transmitting messages between end-user communication devices.

The Office Action noted that

Regarding to claim 1, Dunn teaches a method to wirelessly communicate data over a plurality of cellular channels (i.e., sending large amount of information over aggregating available radio channels, col. 6, lines 1-62), comprising: requesting an allocation of preferably adjacent cellular frequency channels from a mobile station to a base station (i.e., portable terminal demands the master microprocessor for available radio channels, col. 7, lines 5-37, col. 8, lines 23-44);

allocating available frequency channels in response to the request from the mobile station (allocating channels, col. 8, lines 34-44); and bonding the available frequency channels to communicate data (corresponding to aggregation of available channels is accomplished, communication between the portable terminal and the master, col. 8, lines 1-67).

Applicant respectfully traverse the rejection. Dunn fails to show requesting an allocation of preferably adjacent cellular frequency channels from a mobile station to a base station; allocating available frequency channels in response to the request from the mobile station; and bonding the available frequency channels to communicate data; bonding a short-range radio channel to the cellular frequency channels; and communicating over the bonded cellular and radio channels using short-range radio protocol and cellular protocol.

Embodiments of the invention can bond completely different protocols like cellular GPRS, and short-range radio protocols such as Bluetooth and 802.11b. This is further not limited to packetized channels, since Bluetooth can be circuit-switched as well. So implementation of the invention has far more extensive capability than Dunn, who teaches only cellular channel bonding.

Moreover, Dunn fails to show the adjacent frequency channels. This is an independent basis for traversing the section 102 rejection. Having channels widely separated in frequency requires multiple radios. Having multiple adjacent channels only requires widening the RF filter range to increase the data rates. Dunn teaches away from the solution, since he assumes that the wireless channel only consists of digital packets. However, a system can't easily access multiple frequencies with a single radio that's built to receive a single channel. For example, a single channel system would not be able access multiple GPRS channels simultaneously.

Since a Section 102 rejection requires each and every element of the claim be present, and since Dunn does not show at least one element of claim 1, the invention cannot be anticipated by Dunn. Withdrawal of the Section 102 rejection is respectfully requested.

The Office Action also rejected claims 11-15 as anticipated by Rosener. Rosener relates to a repeater system for wireless communications applications that is programmable and controllable in a manner that enables multi-user, multiband, and multi-protocol operation. The Office Action noted:

Regarding to claim 11, Rosener teaches a reconfigurable processor core, comprising: one or more processing units (T28 GSM phone which can assume the identity of phone 101 typically include a processor (section 0060); a long-range transceiver unit coupled to the processing units, the long-range transceiver unit communicating over a plurality of cellular frequency channels (RF interface to communicate with base stations outside of the car, section 0060); a short-range transceiver coupled to the processing units (bluetooth interface to communicate inside the car, section 0060); and means for bonding a plurality of channels (i.e., when inside a combination of bluetooth and the RF interface allows the user to communicate, section 0060, 0118-0119).

Applicant respectfully traverses the rejection. Rosener fails to show a configurable processor core having processing units, which as spelled out in the dependent claims include RISC and DSP processors. The phone 101 includes only one processing unit. Moreover, Rosener fails to show a long-range transceiver unit coupled to the processing units, the long-range transceiver unit communicating over a plurality of cellular frequency channels; a short-range transceiver coupled to the processing units; and means for bonding a plurality of channels using cellular protocol and short-range protocol.

Rosener's Section 60 merely states:

[0060] In one implementation, two (or more) T28 GSM phones of the type described in reference to wireless device 101 are used as core modules of the repeater core. Such phones are enclosed in a plastic radome and mounted in the roof of a car on a plastic plate that replaces any metal sheeting in the roof. In this embodiment, the Bluetooth interface communicates with wireless devices inside the car, and RF interface communicates with a base station outside the car. In this implementation, the T28 phones already include the repeater control unit as well as the outside adaptive antenna system. T28 phones are programmed with customized software to provide various services to wireless devices 101A-101N. Specifically, the T28 phones may be programmed to assume the identity of a wireless device 101. In this application, the T28 phone in the repeater over-writes its own identity information with identity information received from wireless device 101.

Rosener relates to a repeater, where signals are converted from one standard to another - not a channel aggregator that bonds channels.

Since a Section 102 rejection requires each and every element of the claim be present, and since Rosener does not show at least one element of claim 1, the invention cannot be anticipated by Rosener. Withdrawal of the Section 102 rejection is respectfully requested.

#### The Section 103 Rejection

Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dunn et al. in view of Arazi et al. (US 6,430,395). Claim 2 was withdrawn. Claims 3-4 are patentable as they depend from allowable claim 1. Regarding claims 3 and 4, Dunn and Arazi do not teach all the limitations. Arazi teaches wherein the short-range radio channel is Bluetooth (col.16, lines 50-55). However, there is no teaching of bonding a short-range radio channel to the cellular frequency channels; and communicating over the bonded cellular and radio channels using short-range radio protocol and cellular protocol.

Claims 5-10 were rejected under 35 U.S.C. 103(a) as being unpatentable over Dunn et al. in view of Park (US 6,081,168). Park relates to a voltage controlled oscillator and one skilled in the art would not combine the references. Moreover, neither shows the specifics of bonding a short-range radio channel to the cellular frequency channels; and communicating over the bonded cellular and radio channels using short-range radio protocol and cellular protocol.

Additionally, the specifics of the dependent claim are not met in Dunn. The claimed router is a way to route packets based on information coded in the packet header. In contrast, the router recited in the dependent claims is an on-chip router that sends packets to the best available node. In other words, the router does not depend only on the base station assigning channels, it can figure out the best channel based on IP addresses. Dunn teaches that the router lies beyond the base station, not part of the mobile unit.

Claims 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosener et al. in view of Park (US 6,081,168). Again, Park relates to a voltage controlled oscillator and would not be combined with Rosener. Moreover, none of the references show a configurable processor core having processing units, which as spelled out in the dependent claims include RISC and DSP processors. The phone 101 includes only one processing unit. Moreover, Rosener fails to show a long-range transceiver unit coupled to the processing units, the long-range transceiver unit communicating over a plurality of cellular frequency channels; a short-range transceiver coupled to the processing units; and means for bonding a plurality of channels using cellular protocol and short-range protocol.

Again, the dependent claim limitations are not met in Rosener. For example, the router mentioned in Rosener is NOT a packet router, it's just essentially a switch. The claimed router is a way to route packets based on information coded in the packet header. In contrast, the router recited in the dependent claims is an on-chip router that sends packets to the best available node. In other words, the router does not depend only on the base station assigning channels, it can figure out the best channel based on IP addresses. Dunn teaches that the router lies beyond the base station, not part of the mobile unit.

In view of the foregoing, there is no basis in the art for combining the references in the manner proposed. Per MPEP Section 2143.01:

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." *In re Kotzab*, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

In *In re Kotzab*, the claims were drawn to an injection molding method using a single temperature sensor to control a plurality of flow control valves. The primary reference disclosed a multizone device having multiple sensors, each of which controlled an associated flow control valve, and also taught that one system may be used to control a number of valves. The court found that there was insufficient evidence to show that one system was the same as one sensor. While the control of multiple valves by a single sensor rather than by multiple sensors was a "technologically simple concept," there was no finding "as to the specific understanding or principle within the knowledge of the skilled artisan" that would

have provided the motivation to use a single sensor as the system to control more than one valve. 217 F.3d at 1371, 55 USPQ2d at 1318.

In *In re Fine*, the claims were directed to a system for detecting and measuring minute quantities on nitrogen compounds comprising a gas chromatograph, a converter which converts nitrogen compounds into nitric oxide by combustion, and a nitric oxide detector. The primary reference disclosed a system for monitoring sulfur compounds comprising a chromatograph, combustion means, and a detector, and the secondary reference taught nitric oxide detectors. The examiner and Board asserted that it would have been within the skill of the art to substitute one type of detector for another in the system of the primary reference, however the court found there was no support or explanation of this conclusion and reversed.

In this case, there was no support or explanation of this conclusion and the rejection should be withdrawn. The combination of references proposed in the Final Office Action would render the construction of the references impracticable for their intended purposes. If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). In this case, there is no motivation to combine.

Moreover, the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990) (Claims were directed to an apparatus for producing an aerated cementitious composition by drawing air into the cementitious composition by driving the output pump at a capacity greater than the feed rate. The prior art reference taught that the feed means can be run at

a variable speed, however the court found that this does not require that the output pump be run at the claimed speed so that air is drawn into the mixing chamber and is entrained in the ingredients during operation. Although a prior art device "may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so." 916 F.2d at 682, 16 USPQ2d at 1432.). See also *In re Fritch*, 972 F.2d 1260, 23 USPQ2d 1780 (Fed. Cir. 1992) (flexible landscape edging device which is conformable to a ground surface of varying slope not suggested by combination of prior art references).

There was no reasonable expectation of success when combining the references. Evidence showing there was no reasonable expectation of success may support a conclusion of nonobviousness. *In re Rinehart*, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976) (Claims directed to a method for the commercial scale production of polyesters in the presence of a solvent at superatmospheric pressure were rejected as obvious over a reference which taught the claimed method at atmospheric pressure in view of a reference which taught the claimed process except for the presence of a solvent. The court reversed, finding there was no reasonable expectation that a process combining the prior art steps could be successfully scaled up in view of unchallenged evidence showing that the prior art processes individually could not be commercially scaled up successfully.). See also *Amgen, Inc. v. Chugai Pharmaceutical Co.*, 927 F.2d 1200, 1207-08, 18 USPQ2d 1016, 1022-23 (Fed. Cir.), cert. denied, 502 U.S. 856 (1991) (In the context of a biotechnology case, testimony supported the conclusion that the references did not show that there was a reasonable expectation of success.); *In re O'Farrell*, 853 F.2d 894, 903, 7 USPQ2d 1673, 1681 (Fed. Cir. 1988) (The court held the claimed method would have been obvious over



the prior art relied upon because one reference contained a detailed enabling methodology, a suggestion to modify the prior art to produce the claimed invention, and evidence suggesting the modification would be successful.).

Applicants have provided evidence pointing away from obviousness and in accordance with MPEP Section 2143.01:

If the examiner determines there is factual support for rejecting the claimed invention under 35 U.S.C. 103, the examiner must then consider any evidence supporting the patentability of the claimed invention, such as any evidence in the specification or any other evidence submitted by the applicant. The ultimate determination of patentability is based on the entire record, by a preponderance of evidence, with due consideration to the persuasiveness of any arguments and any secondary evidence. In *re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). The legal standard of "a preponderance of evidence" requires the evidence to be more convincing than the evidence which is offered in opposition to it. With regard to rejections under 35 U.S.C. 103, the examiner must provide evidence which as a whole shows that the legal determination sought to be proved (i.e., the reference teachings establish a *prima facie* case of obviousness) is more probable than not.

When an applicant submits evidence, whether in the specification as originally filed or in reply to a rejection, the examiner must reconsider the patentability of the claimed invention. The decision on patentability must be made based upon consideration of all the evidence, including the evidence submitted by the examiner and the evidence submitted by the applicant. A decision to make or maintain a rejection in the face of all the evidence must show that it was based on the totality of the evidence. Facts established by rebuttal evidence must be evaluated along with the facts on which the conclusion of obviousness was reached, not against the conclusion itself. In *re Eli Lilly & Co.*, 902 F.2d 943, 14 USPQ2d 1741 (Fed. Cir. 1990).

To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

Finally, each reference, singly or in combination, does not teach or suggest all the claim limitations in the independent claims as well as each dependent claims. Since the teaching or suggestion to make the claimed combination and the reasonable expectation of success is not found in the references, there is an inference that it came from Applicants' disclosure.

#### CONCLUSION

Applicants respectfully submit that the claimed invention is patentable over the combined references. Applicants respectfully submit that the claims overcome all §102 and 103 rejections. Withdrawal of all rejections is respectfully requested

If for any reason the Examiner believes that a telephone conference would in any way expedite prosecution of the subject application, the Examiner is invited to telephone the undersigned at (408) 528-7490.

Respectfully submitted,



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